IN THE CLAIMS

Please substitute the following listing of claims for the previous listing of claims.

1. (Currently amended) A substrate processing chamber component capable of being exposed to a RF or microwave energized gas in a substrate processing chamber, the component comprising a metal alloy comprising yttrium and aluminum, ~~structure~~ the metal alloy having an ~~integral~~ anodized surface coating formed by applying an electrical bias power to the metal alloy, wherein the anodized surface coating comprises ~~of~~ an yttrium-aluminum compound.

2-3. (Canceled)

4. (Currently amended) A component according to claim 1 ~~3~~ wherein the metal alloy comprises an yttrium content of at least about 5% by weight.

5. (Canceled)

6. (Original) A component according to claim 1 wherein the yttrium-aluminum compound comprises yttrium aluminum oxide.

7. (Original) A component according to claim 6 wherein the yttrium-aluminum compound comprises YAG.

8. (Currently amended) A component according to claim 1 wherein the ~~integral~~ anodized surface coating comprises a thickness of from about 0.5 mils to about 8 mils.

9. (Currently amended) A component according to claim 1 wherein the metal alloy ~~structure~~ comprises a portion of an enclosure wall.

10. (Currently amended) A component according to claim 1 wherein the metal alloy ~~structure~~ comprises a portion of a wall liner.

11. (Withdrawn) A method of manufacturing a substrate processing chamber component comprising:

(a) forming a chamber component comprising a structure comprising a metal alloy composed of yttrium and aluminum; and

(b) anodizing a surface of the metal alloy structure to form an anodized coating of an yttrium-aluminum compound.

12. (Withdrawn) A method according to claim 11 comprising anodizing the surface of the metal alloy to form yttrium aluminum oxide.

13. (Withdrawn) A method according to claim 11 wherein (a) comprises forming a metal alloy comprising an yttrium content of less than about 50% by weight.

14. (Withdrawn) A method according to claim 11 comprising anodizing the surface of the metal alloy structure to form an anodized coating having a thickness of from about 0.5 mil to about 8 mils.

15. (Withdrawn) A method according to claim 11 comprising anodizing the surface of the metal alloy in an acidic solution comprising one or more of oxalic acid, chromic acid and sulfuric acid.

16. (Withdrawn) A method according to claim 15 comprising anodizing the surface of the metal alloy for from about 30 minutes to about 120 minutes.

17. (Withdrawn) A method according to claim 11 comprising anodizing the surface of the metal alloy to form an anodized coating comprising YAG.

18. (Withdrawn) A method of manufacturing a substrate processing chamber component comprising:

(a) forming a chamber component comprising a structure comprising aluminum; and

(b) ion implanting yttrium into the aluminum.

19. (Withdrawn) A method according to claim 18 wherein (b) comprises generating yttrium ions and energizing the ions to energy levels of from about 50 to about 500 keV.

20. (Withdrawn) A method according to claim 18 further comprising annealing the structure.

21. (Withdrawn) A method according to claim 18 further comprising ion implanting oxygen into the structure.

22. (Withdrawn) A method according to claim 18 comprising anodizing the surface of the structure in an acidic solution.

23. (Withdrawn) A method according to claim 18 comprising treating the surface of the structure to form yttrium aluminum oxide.

24. (Withdrawn) A method according to claim 18 comprising treating the surface of the structure to form YAG.

25. (Withdrawn) A method of manufacturing a substrate processing chamber component comprising:

(a) shaping a chamber component comprising a structure comprising aluminum;

(b) ion implanting yttrium in the structure; and

(c) ion implanting oxygen in the structure.

26. (Withdrawn) A method according to claim 25 wherein (b) comprises generating yttrium ions and energizing the ions to energy levels of from about 50 to about 500 keV.

27. (Withdrawn) A method according to claim 25 further comprising annealing the structure.

28. (Withdrawn) A method according to claim 25 comprising implanting yttrium and oxygen to provide a molar ratio of yttrium to aluminum to oxygen that forms YAG.

29. (Currently amended) A substrate processing apparatus comprising:

a process chamber having a wall about a process zone;

a substrate transport capable of transporting a substrate into the process chamber;

a substrate support capable of receiving a substrate;

a gas supply capable of introducing a process gas into the process chamber;

a gas energizer capable of energizing the process gas in the process chamber; and

an exhaust capable of exhausting the process gas from the process chamber,

wherein one or more of the process chamber wall, substrate support, substrate transport, gas supply, gas energizer and gas exhaust, comprises a metal ~~structure~~ alloy comprising yttrium and aluminum, the metal alloy having ~~an integral~~ an anodized surface coating formed by applying an electrical bias power to the metal alloy, wherein the anodized surface coating comprises ~~of~~ an yttrium-aluminum compound.

30-31. (Canceled)

32. (Currently amended) An apparatus according to claim 29 ~~31~~ wherein the metal alloy comprises an yttrium content of at least about 5% by weight.

33. (Currently amended) An apparatus according to claim 29 wherein the ~~integral~~ surface coating comprises an ion implanted coating.

34. (Original) An apparatus according to claim 29 wherein the yttrium-aluminum compound comprises yttrium aluminum oxide.

35. (Original) An apparatus according to claim 29 wherein the yttrium-aluminum compound comprises YAG.

36. (Currently amended) A component for a substrate processing chamber that is capable of being exposed to a RF or microwave energized gas, the component comprising:

a metal alloy comprising yttrium and aluminum, the metal alloy ~~structure~~ having a coating capable of being exposed to ~~a plasma~~ the RF or microwave energized gas in the substrate processing chamber, the coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

37. (Previously presented) A component according to claim 36 wherein the compositional gradient continuously varies through the thickness of the coating.

38. (Previously presented) A component according to claim 36 wherein the yttrium-aluminum oxide comprises YAG.

39. (Withdrawn) A method of manufacturing a plasma process chamber component, the method comprising:

(a) forming a structure; and

(b) forming on the structure, a coating capable of being exposed to a plasma in the process chamber, the coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

40. (Withdrawn) A method according to claim 39 wherein (a) comprises forming a structure comprising a metal alloy composed of yttrium and aluminum, and wherein (b) comprises anodizing the metal alloy to form an anodized coating of the yttrium-aluminum oxide having the compositional gradient.

41. (Withdrawn) A method according to claim 39 wherein (a) comprises forming a structure comprising aluminum, and wherein (b) comprises ion implanting yttrium and oxygen into the aluminum to form the yttrium-aluminum oxide having the compositional gradient.

42. (Withdrawn) A method according to claim 39 wherein (b) comprises forming a coating comprising a compositional gradient of YAG.

43. (Previously presented) A component according to claim 1 wherein the integral surface coating comprises yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

44. (Withdrawn) A method according to claim 11 wherein (b) comprises forming an anodized coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

45. (Withdrawn) A method according to claim 18 comprising treating a surface of the structure to form an integral surface coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

46. (Withdrawn) A method according to claim 25 comprising treating a surface of the structure to form an integral surface coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

47. (Currently amended) An apparatus according to claim 29 wherein the ~~integral~~ surface coating comprises yttrium-aluminum oxide having a compositional gradient through a thickness of the surface coating.

48. (Currently amended) A component for a ~~plasma process~~ substrate processing chamber that is capable of being exposed to a RF or microwave energized gas, the component comprising:

a structure having a coating capable of being exposed to the RF or microwave energized gas ~~a plasma~~ in the ~~process~~ substrate processing chamber, the coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating, the yttrium-aluminum oxide comprising YAG.

49. (Previously presented) A component according to claim 48 wherein the coating comprises an anodized coating.

50. (Previously presented) A component according to claim 48 wherein the coating comprises an ion implanted coating.

51. (Currently amended) A substrate processing apparatus comprising:

a process chamber having a wall about a process zone;

a substrate transport capable of transporting a substrate into the process chamber;

a substrate support capable of receiving a substrate;

a gas supply capable of introducing a process gas into the process chamber;

a gas energizer capable of energizing the process gas in the process chamber; and

an exhaust capable of exhausting the process gas from the process chamber,

wherein one or more of the process chamber wall, substrate support, substrate transport, gas supply, gas energizer and gas exhaust, comprises a structure having ~~an integral~~ a surface coating, the ~~integral~~ surface coating comprising yttrium-aluminum oxide having a compositional gradient through a thickness of the coating.

52. (Currently amended) An apparatus according to claim 51 wherein the ~~integral~~ surface coating comprises an anodized surface coating formed by applying an electrical bias power.

53. (Previously presented) An apparatus according to claim 51 wherein the coating comprises an ion implanted coating.

54. (Currently amended) A component according to claim 1 wherein the component is absent a discrete boundary between the coating and the metal alloy ~~structure~~.

55. (Currently amended) An apparatus according to claim 29 wherein the component is absent a discrete boundary between the coating and the metal alloy ~~structure~~.

56. (Currently amended) A component according to claim 1 wherein the ~~integral~~ surface coating is adapted to be exposed to a plasma in the substrate processing chamber.

57. (Previously presented) A component according to claim 1 wherein the substrate processing chamber processes substrates by etching or depositing material on the substrates.

58. (New) A substrate processing chamber component capable of being exposed to a RF or microwave energized gas in a substrate processing chamber, the component comprising a structure comprising (i) aluminum, or (ii) a metal alloy comprising yttrium and aluminum, the structure having an ion implanted surface coating comprising an yttrium-aluminum compound.

59. (New) A component according to claim 58 wherein the structure comprises a metal alloy comprising an yttrium content of at least about 5% by weight.

60. (New) A component according to claim 58 wherein the yttrium-aluminum compound comprises yttrium aluminum oxide.

61. (New) A component according to claim 60 wherein the yttrium-aluminum compound comprises YAG.

62. (New) A component according to claim 58 wherein the ion implanted surface coating comprises a thickness of from about 0.5 mils to about 8 mils.

63. (New) A component according to claim 58 wherein the structure comprises a portion of an enclosure wall.

64. (New) A component according to claim 58 wherein the structure comprises a portion of a wall liner.